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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,969	01/28/2002	Ken Saito	AETE.0003	6700

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EXAMINER
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DI GRAZIO, JEANNE A

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,969

Applicant(s)

SAITO ET AL.

Examiner

Jeanne A. Di Grazio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE April 25, 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6,12-15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,12-15 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Figs 14&15 10/07/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claims***

Claims 1, 3-6, 12-15 and 18 are pending with claims 2, 7-11, 16-17 and 19-20 having been cancelled per Amendment of April 25, 2005. Claim 1 has been amended per Amendment of April 25, 2005.

Please note that claims 12-15 depend upon cancelled claim 2.

### ***Priority***

Priority to Japanese Patent Application No. 2001-039522 (Feb. 16, 2001) is claimed.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 25, 2005 has been entered.

*Claim Objections*

Claims 12-15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Please note that claims 12-15 depend from claim 2 (either directly or indirectly) which has been cancelled by Applicant in Paper of April 25, 2005.

The Examiner presumes that said claims were meant to depend from claim 1. However, claims 12-15 are duplicative of claims 3, 4 and 5 respectively and thus do not further limit the base claim from which they depend.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-4, 12-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) Figures 14 and 15 in view of United States Patent 5,606,438 (to Margalit et al.).

As to claim 1 (amended), APA Figures 14 and 15 illustrate the following elements: a liquid crystal display element (PNL, LC, SUB1, SUB2), a light source (BL) located right below a back surface of the liquid crystal element, a substantially rectangular diffusion plate (SCT)

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which is interposed between the liquid crystal display (PNL, LC, SUB1, SUB2) element and the light source (CFL), and at least one optical sheet (OPS) which is arranged between the diffusion plate (SCT) and the liquid crystal display element (PNL, LC, SUB1, SUB2), and the optical sheet (OPS) contacts the diffusion plate (SCT).

Please furthermore note that Applicant's Specification states that the backlight is a direct backlight (Specification page 3)(stating in reference to Figure 15, "[i]n the direct backlight").

APA does not appear to explicitly specify that the liquid crystal display device includes a transparent sheet which is arranged between the diffusion plate and the light source and has a contour which is substantially equal to a contour of the diffusion plate and four sides of the transparent sheet are adhered to the diffusion plate so as to define a gap therebetween that is sealed from outside air.

Margalit is drawn to a rugged liquid crystal display and method for its manufacture.

Margalit teaches that through the use of a double-sided adhesive foil, a back light diffuser (Figure 3, diffuser 42) can be adhered to a bottom polarizer (Figure 3, polarizer 34) of a liquid crystal display (Figure 3, LCD 30 and 31). Please note that the polarizer can be either transparent or transfective (Column 2, Line 65).

Given that the polarizer and diffuser are adhered via a double-sided adhesive, presumably, all four sides of the polarizer are adhered to the diffuser and thus define a gap that is sealed from outside air.

Furthermore, the Examiner notes that both polarizer and diffuser have the same contour (outline) from the side view of Figure 3.

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Therefore, it would have been obvious to one of ordinary skill in the arts of liquid crystals, diffusers and adhesives at the time the invention was made to modify APA in view of Margalit for several reasons:

- (1) to improve upon shock resistance to the display when the display is dropped,
- (2) to provide better resistance to localized pressures,
- (3) and because the LCD is not completely flat, to allow for undulations and
- (4) to resist chemical attack (See Column 3, Lines 11-65).

Overall, use of the adhesive and bonding of the elements thereof contributes to a rugged display.

As to claims 3 and 12, as noted, the transparent polarizer is adhered to the diffusion layer by a double-sided adhesive foil to resist chemical attack (Column 3, Lines 63-65).

As to claims 4 and 13, as noted, the optical film contacts the diffusion plate.

As to claim 18, APA Figure 14 illustrates a plurality of fluorescent lamps (CFL).

Claims 5, 6 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) Figures 14 and 15 in view of United States Patent 5,606,438 (to Margalit et al.) and further in view of United States Patent 6,580,477 B1 (to Cho).

As to claims 5 and 14, APA Figures 14 and 15 does not appear to explicitly specify that the liquid crystal display device includes a spacer which restricts a warp quantity of the diffusion plate in the direction toward the light source.

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Cho is directed to a liquid crystal display including at least two light guide plates that are arranged in parallel. In Cho, Figure 1, diffusion sheets (400) are arranged in a receiving container (300) such if the container is swayed or if the diffusion sheets expand by heat, the diffusion sheets can withstand such sway or heat expansion (Column 4, Lines 58-63).

Bosses are fitted (bosses = 260) for fixing the diffusion sheets within the receiving container and the bosses have a height that is greater than the thickness of the diffusion sheets (Column 4, Lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the arts of liquid crystals, diffusers and adhesives at the time the invention was made to modify APA in view of Cho for a boss / spacer that restricts warping of a diffusion plate for several reasons:

- (1) to enable the diffusion sheets to withstand sway and
- (2) to enable the diffusion sheets to adapt and expand when heated.

As to claims 6 and 15, as previously noted, at least an optical film contacts the diffuser.

### ***Response to Arguments***

Applicant's arguments with respect to said claims have been considered but are moot in view of the new ground(s) of rejection.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio  
Patent Examiner  
Art Unit 2871

JDG



DUNG T. NGUYEN  
PRIMARY EXAMINER